

Tennessee Education Lottery Revenue & Proceeds Projections:

FY06 (2005-2006)

FY07 (2006-2007)

Presented to:

The State Funding Board

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November 30, 2005

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FY05 Actual

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FY05 Actual

FY05	Net Revenue	Total Expenses (71.1%)	Net Lottery Proceeds (28.9%)	Sales Per Capita
FY05 Estimates Provided 04/26/05	\$758.9m	\$537.3m	\$221.6m	\$127
FY05 Actual	<u>\$788.0m</u>	<u>\$560.6m</u>	<u>\$227.4m</u>	<u>\$132</u>

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FY06 Estimates - Revised

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FY06 Revenue, Expenses, Proceeds, & SPC Estimates - Revised

FY06 Estimates:	Net Revenue	Total Expenses (72.0%)	Net Lottery Proceeds (28.0%)	Sales Per Capita
Estimated Range:	\$819.3m - \$864.9m	\$589.9m - \$622.7m	\$229.4m - \$242.2m	\$136 - \$144
Mean Estimate:	<u>\$842.1m</u>	<u>\$606.3m</u>	<u>\$235.8m</u>	<u>\$140</u>
Estimated Growth over FY05	6.90%	8.20%	3.40%	6.00%

Appendix A includes revenue projections by game type

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Revisions, Reasons

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Revisions (Since April 26th Meeting)

- Net Revenue estimate increased from \$776.0 million to \$842.1 million (\$66.1 million).
- Total Expense estimate increased from \$543.2 million to \$606.3 million (\$63.1 million).
- Net Lottery Proceeds estimate increased from \$232.8 million to \$235.8 million (\$3.0 million).
- SPC estimate increased from \$129 to \$140.

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Reasons

Revenues for the first four months of FY06 have been higher than expected due to:

- Instant Games – Higher prize payout strategy.
- CASH 4 – Incremental revenue generated.
- POWERBALL – Nine consecutive drawings (Sept and Oct) with jackpots over \$100 million – Jackpot topped out at \$340 million (a record).

Reasons - continued

Revenues for the remaining eight months of FY06 are expected to be higher due to:

- Instant Games – Continued use of a higher prize payout strategy.
- POWERBALL – Matrix change (08/31/05).
- CASH 3 – Introduction of mid-day drawings.
- CASH 4 – Introduction of mid-day drawings.

Developing Trends

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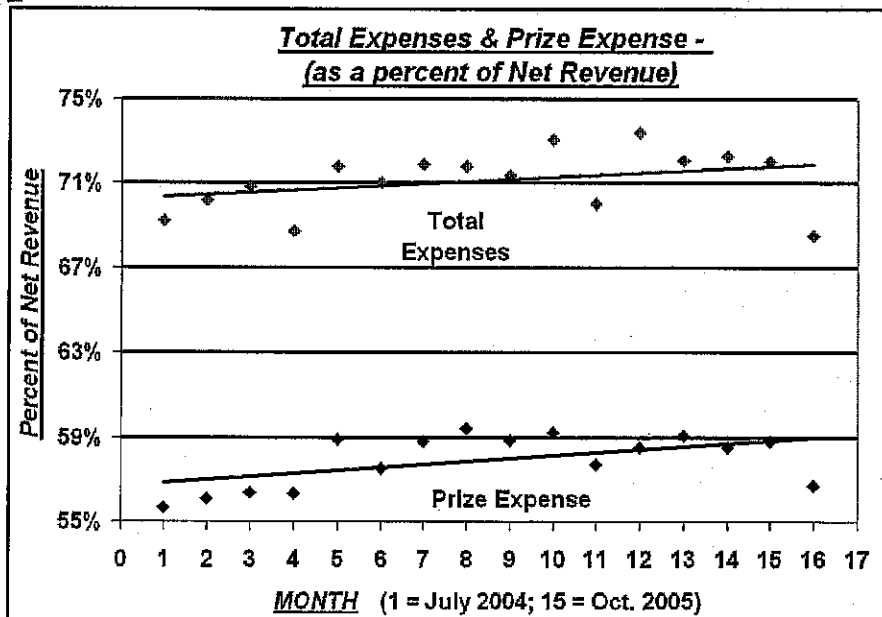
Developing Trends

- **Prize Expense**, as a percent of net revenue, is increasing.
- Prize Expense Ratios: FY04* = 55.2%; FY05 = 57.9%; FY06 = 59.2% (Estimate).
- **Total Expenses**, as a percent of net revenue, are increasing.
- Total Expense Ratios: FY04* = 68.7%; FY05 = 71.2%; FY06 = 72.0% (Estimate).
- **Net Lottery Proceeds**, as a percent of net revenue, are decreasing.
- Proceeds Ratios: FY04* = 31.3%; FY05 = 28.8%; FY06 = 28.0% (Estimate).

*Partial Fiscal Year

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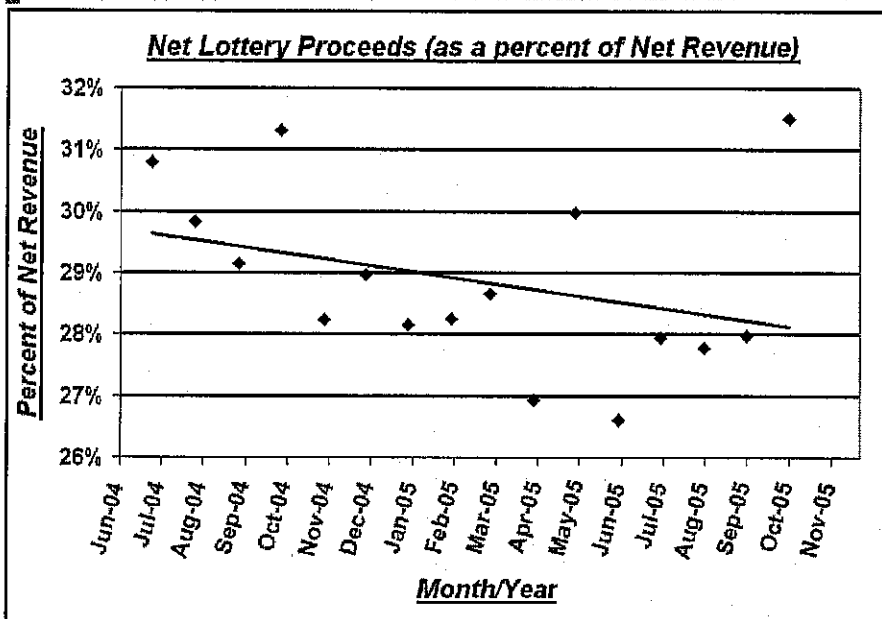
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Expense Categories

Category	FY04*	FY05	FY06 Estimates
Prize Expense**	55.2%	57.9%	59.2%
Retailer Commissions**	7.1%	7.0%	6.5%
Advertising**	1.3%	1.9%	1.8%
Operating Expenses**	2.5%	2.0%	2.0%
Vendor Fees, Misc.**	2.3%	2.1%	2.1%
Other Gaming Expenses**	0.4%	0.4%	0.4%
Total Expenses**	68.7%	71.2%	72.0%
Net Lottery Proceeds**	31.3%	28.8%	28.0%
*Partial Fiscal Year		**Expressed as a "percent of Net Revenue"	

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Real-Dollar Changes

Category:	<u>FY05 Actual</u> NLPR = 28.9%	<u>FY06 Estimates:</u> NLPR = 28.0%	<u>Alternative</u> NLPR = 28.0%
Net Revenue	\$788.0	\$842.1	\$810.0
Net Lottery Proceeds (NLP)	\$227.4	\$235.8	\$226.8
Dollar-Change In Net Revenue	N/A	\$54.1	\$22.0
Dollar-Change in NLP	N/A	\$8.4	(\$0.6)

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What's the cause?

- TELC has been increasing the average prize payout ratio as a strategy to increase net revenue.
- Increasing the prize payout ratio on the pool of Instant Games.
- LOGIC: Increase prize payout ratio ► Better odds of winning ► Customers purchase more tickets ► Incremental revenue is generated.
- Hopefully, incremental proceeds will be realized.

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Is the strategy working?

- Yes. Why?
- Instant Game Revenue for the first four months of FY06 was up 25.2% compared to the first four months of FY05.
- Total Net Revenue was up 24.4% over the same time period.
- Net income was up 19.4% over the same time period.

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Net Revenue Performance by Game

	July - October 2004 (FY05)	July - October 2005 (FY06)	Net Difference	Percent Increase
Instant Games	\$151,689,906	\$189,922,157	\$38,232,251	25.2%
CASH 3	\$22,310,874	\$18,600,758	-\$3,710,116	-16.6%
Powerball	\$54,885,261	\$67,269,618	\$12,384,357	22.6%
LOTTO 5	\$5,203,633	\$7,371,928	\$2,168,295	41.7%
CASH 4	\$0	\$8,116,017	\$8,116,017	N/A
Total Change in Net Ticket Sales	\$234,089,674	\$291,280,478	\$57,190,804	24.4%

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Will this strategy continue to work?

- Short-term answer: Most Likely
- Lotteries have used strategy with great success.
- Industry Standard for increasing revenues.
- Long-term answer: Maybe
- Marginal, longer-term consequences of utilizing this strategy indefinitely.
- To understand the risk, elasticity should be considered.

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Elasticity

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Elasticity – in a Lottery Context?

- The change in net ticket sales as a result of a change to the average prize payout ratio.
- By increasing the average prize payout ratio, customers get more value with each ticket purchase (chance of winning improves).
- With a better opportunity to win, will you sell more lottery tickets?

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Elasticity – More Sales?

ANSWER: It depends on:

- (1) The average prize payout ratio being utilized and the resulting level of sales.
- (2) Where this combination lies on the price-elasticity demand curve.
- (3) The direction of any subsequent changes to the average prize payout ratio.
- With each change to the prize payout ratio, one of three possibilities will occur.

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Elasticity - Consequences

- Upside Potential – Increasing the prize payout ratio while on the “elastic” region of the demand curve should result in incremental net income (Incremental Revenue > Incremental Expense).
- Neutral Possibility – Increasing the prize payout ratio (periodically and over longer periods of time) will result in a movement towards “unitary elasticity”. This is the point where subsequent increases to the prize payout ratio will have very little effect or no effect on net income (Incremental Revenue = Incremental Expense).
- Downside Consequence – At some point, increasing the prize payout ratio will cause movements onto the “inelastic” region of the curve. This is where net income would begin declining with each subsequent increase to the prize payout ratio (Incremental Revenue < Incremental Expenses).

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Elasticity - Hypothetical Case

Year	Prize Expense Ratio	Revenues Generated	Prize Expense	Gross Profit	Demand is:
Y1	50%	\$50,000,000	\$25,000,000	\$25,000,000	?
Y2	55%	\$58,000,000	\$31,900,000	\$26,100,000	Elastic
Result:		<u>\$8,000,000</u>	<u>\$6,900,000</u>	<u>\$1,100,000</u>	
Y3	60%	\$65,250,000	\$39,150,000	\$26,100,000	Unitary
Result:		<u>\$7,250,000</u>	<u>\$7,250,000</u>	<u>\$0</u>	
Y4	65%	\$70,000,000	\$45,500,000	\$24,500,000	Inelastic
Result:		<u>\$4,750,000</u>	<u>\$6,350,000</u>	<u>(\$1,600,000)</u>	

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Elasticity - Assumption

- All other variables remain constant (Very Important).
- Variables that could affect revenues and proceeds:
 - Inflation?
 - Purchasing power diminished?
 - Population changes?
 - Fading novelty?
 - New games?
 - Changes to existing games?
 - Fuel prices?
 - Others?

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Elasticity - Words of Caution

- **CAUTION 1:** Movement onto the “inelastic” region can be made unknowingly and inadvertently.
- **CAUTION 2:** Given that demand is elastic, and some incremental proceeds are being realized, you are paying out proportionally more of any incremental revenue generated from the strategy out as prize money.
- **Result:** In order to realize a 1% increase in Net Lottery Proceeds, Net Revenue must increase at some rate greater than 1%.

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Elasticity – Where’s the TELC?

- To generate a 1% increase in Net Lottery Proceeds (over FY05), a 4.1% increase in Net Revenue will be required in FY06 (assuming a 72% expense ratio).
- To generate an additional \$2.27 million in proceeds, Net Revenue will have to increase by \$32.0 million.
- Where is the TEL on the price-elasticity demand curve?
- Speculate that TEL is in the elastic region.
- Why? Because revenues and income have been up.
- Despite the recent high fuel prices.

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Elasticity – Last Words

- At some point, we believe that net income will decline.
- Could be that we have moved onto the inelastic region of the demand curve.
- Could be that we are still on the elastic region of the demand curve, but events in the external environment (i.e. economy, gas prices, etc.) have caused sales to decline.
- Increase the average prize payout ratio too aggressively (over extended periods of time), it could lead to decreased net lottery proceeds.

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FY06 Revenue, Expenses, Proceeds, & SPC Estimates - Revised

FY06 Estimates:	Net Revenue	Total Expenses (72.0%)	Net Lottery Proceeds (28.0%)	Sales Per Capita
Estimated Range:	\$819.3m - \$864.9m	\$589.9m - \$622.7m	\$229.4m - \$242.2m	\$136 - \$144
Mean Estimate:	<u>\$842.1m</u>	<u>\$606.3m</u>	<u>\$235.8m</u>	<u>\$140</u>
Estimated Growth over FY05	6.90%	8.20%	3.40%	6.00%

Appendix A includes revenue projections by game type.

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FY07 Estimates

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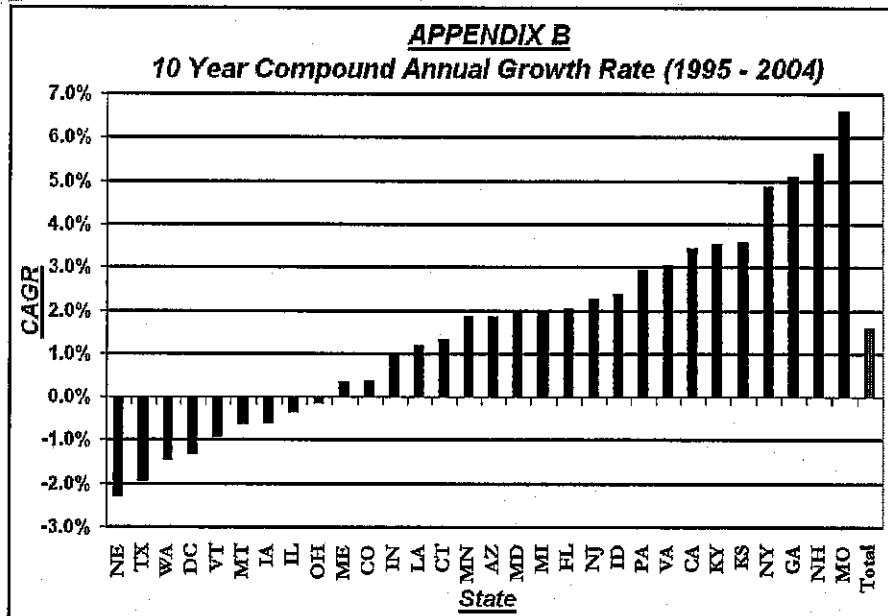
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FY07 Methodology

- FY06 estimates used as base year.
- Assumed a 1.6% annual growth rate for net revenue and net lottery proceeds.
- Growth rate is in line with industry average.
- Assumed 1-year population growth rate of 1.0% for calculation of sales per capita estimates.
- Assumed Total Expenses would remain constant at 72.0% of Net Revenue.
- Assumed Net Lottery Proceeds would remain constant at 28.0% of Net Revenue.

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FY07 Revenue, Expenses, Proceeds, & SPC - Estimates

FY07 Estimates:	Net Revenue	Total Expenses (72.0%)	Net Lottery Proceeds (28.0%)	Sales Per Capita
Estimated Range:	\$832.4m - \$878.7m	\$599.3m - \$632.7m	\$233.1m - \$246.0m	\$137 - \$145
Weighted Average Estimate:	<u>\$855.6m</u>	<u>\$616.0m</u>	<u>\$239.6m</u>	<u>\$141</u>
Estimated Growth over FY06	1.60%	1.60%	1.60%	0.00%

Appendix B includes revenue projections by game type.

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Appendices A-C

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Any Questions?

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Appendix A

POINT ESTIMATES FOR FY2006

Revenue Source	Mean Estimates for FY06 (at 95% C.I.)
Instant Games	\$566,768,619
Cash 3	\$57,269,113
Powerball	\$165,537,902
Lotto 5	\$22,692,740
Cash 4	\$24,755,084
Misc.	\$5,000,000
Total	\$842,023,458
NLP @ 27.0%	\$227,346,334
NLP @ 27.5%	\$231,556,451
NLP @ 28.0%	\$235,766,568
NLP @ 28.5%	\$239,976,686
NLP @ 29.0%	\$244,186,803
NLP @ 29.5%	\$248,396,920
NLP @ 30.0%	\$252,607,037

INSTANT GAMES:

CASH 3:

POWERBALL:

LOTTO 5:

CASH 4:

Confidence Intervals on weekly sales data beginning 04/23/05 and ending 11/05/05 (since introduction of CASH 4).

Confidence Intervals on weekly sales data beginning 07/02/05 and ending 11/05/05 (current fiscal year).

Confidence Intervals on weekly sales data beginning 09/04/04 and ending 10/08/05 (since introduction of LOTTO 5)....See Next Line*

*Last 4 weeks of October sales were omitted due to outlier factor.

Confidence Intervals on weekly sales data beginning 05/14/05 and ending 11/05/05.

Confidence Intervals on weekly sales data beginning 07/23/05 and ending 11/05/05.

RANGE ESTIMATES FOR FY2006

Revenue Source	Lower Estimates for FY06 (at 95% C.I.)	Upper Estimates for FY06 (at 95% C.I.)
Instant Games	\$556,863,821	\$576,673,418
Cash 3	\$56,557,574	\$57,980,652
Powerball	\$155,042,307	\$176,033,497
Lotto 5	\$21,263,102	\$24,122,379
Cash 4	\$24,454,541	\$25,055,627
Misc.	\$5,000,000	\$5,000,000
Total	\$819,181,344	\$864,865,572
NLP @ 27.0%	\$221,178,963	\$233,513,705
NLP @ 27.5%	\$225,274,870	\$237,838,032
NLP @ 28.0%	\$229,370,776	\$242,162,360
NLP @ 28.5%	\$233,466,683	\$246,486,688
NLP @ 29.0%	\$237,562,590	\$250,811,016
NLP @ 29.5%	\$241,658,497	\$255,135,344
NLP @ 30.0%	\$245,754,403	\$259,459,672

Appendix B

<u>POINT ESTIMATES FOR FY2007</u>	
Revenue Source	Mean Estimates for FY06 (at 95% C.I.)
Instant Games	\$575,836,917
Cash 3	\$58,185,419
Powerball	\$168,186,508
Lotto 5	\$23,055,824
Cash 4	\$25,151,165
Misc.	\$5,080,000
Total	\$855,495,834
NLP @ 27.0%	\$230,983,875
NLP @ 27.5%	\$235,261,354
NLP @ 28.0%	\$239,538,833
NLP @ 28.5%	\$243,816,313
NLP @ 29.0%	\$248,093,792
NLP @ 29.5%	\$252,371,271
NLP @ 30.0%	\$256,648,750

<u>RANGE ESTIMATES FOR FY2007</u>		
Revenue Source	Lower Estimates for FY06 (at 95% C.I.)	Upper Estimates for FY06 (at 95% C.I.)
Instant Games	\$565,773,642	\$585,900,193
Cash 3	\$57,462,495	\$58,908,342
Powerball	\$157,522,983	\$178,850,033
Lotto 5	\$21,603,312	\$24,508,337
Cash 4	\$24,845,814	\$25,456,517
Misc.	\$5,080,000	\$5,080,000
Total	\$832,288,246	\$878,703,421
NLP @ 27.0%	\$224,717,826	\$237,249,924
NLP @ 27.5%	\$228,879,268	\$241,643,441
NLP @ 28.0%	\$233,040,709	\$246,036,958
NLP @ 28.5%	\$237,202,150	\$250,430,475
NLP @ 29.0%	\$241,363,591	\$254,823,992
NLP @ 29.5%	\$245,525,032	\$259,217,509
NLP @ 30.0%	\$249,686,474	\$263,611,026

Appendix C

	FY05 Actual	FY06 Estimates	Percent Change over FY05	FY07 Estimates	Percent Change over FY06
Net Revenue	\$787,997,704	\$842,023,458	6.86%	\$855,495,834	1.60%
Total Expenses	\$560,574,492	\$606,256,890	8.15%	\$615,957,000	1.60%
Net Lottery Proceeds	\$227,423,212	\$235,766,568	3.67%	\$239,538,834	1.60%
Expense Ratio	71.14%	72.00%	N/A	72.00%	N/A
Net Lottery Proceeds Ratio	28.86%	28.00%	N/A	28.00%	N/A